WTCI-565-P

Find ASBESTOS

0038159

MEMORANDUM

10484

TO: DISTRIBUTION LIST
FROM: Dominick Montalbano
DATE: June 23, 1988
SUBJECT: THE WORLD TRADE CENTER - ASBESTOS ABATEMENT PROGRAM - PHASE I - PROJECT PROPOSAL

COPY: P. Bolognese, N. Budeiri, J. Ciccolello, R. Cupelli, F. Garcia, P. LaRocco, R. Linn, E. McKeever, L. Menno, J. Mullen, M. Putignano, D. Schneekloth, P. Slattery, E. Yourke

Attached, for your review, is a Project Proposal for an Asbestos Abatement Program at The World Trade Center. Although the World Trade & Economic Development Department has been advised that there is no requirement to go through the Capital Authorization Process for this project, it is this department's decision to include it in the process and to seek Board authorization at the August 11 meeting.

Please submit all written comments to Joanne Ciccolello on 63 West within the 10-day working review period by Thursday, July 8. For further clarification of the proposal, I can be reached at KIA at 656-4419.

for Joanne Ciccolello
Dominick Montalbano

att.

DISTRIBUTION LIST

DEPARTMENT	COORDINATOR	LOCATION
Chief Financial Officer	A. Karvasarsky	67E1
Audit	R. Slodowski	68N
Aviation	A. Haack	65N
AED/Capital Programs	J. Weston	67W
AED/Policy Planning and Business Development	H. O'Neill	67W
Comptroller's	A. P. Blanco	65N

PLAINTIFF'S EXHIBIT
PX-704.11

Engineering	J. Ansley	73E
General Services	J. Sloane	82N
Law	H. Somervitz	66N
Management and Budget	D. Svitaj	48W
MISD	N. Johnson	71N
Office of Business Development	E. Lloyd	54S
Office of Ferry Transportation	D. Karpiloff	37S
Office of Business & Job Opportunity	R. Andrade	37S
Office of Secretary	C. Foerch	67W
Office of Transportation Planning	R. Roberts	54S
Personnel	R. Scheinman	35N
Port	J. Savage	64E
Public Affairs	J. McNamara	68W
Public Safety	C. Karafin	JSTC
Rail Transportation	K. McKenna	62S
Treasury	N. Chanfrau	JSTC
Tunnels, Bridges & Terminals	R. Harvey	71S

PA 3600/5-87

CAPITAL PROJECT PROPOSAL SUMMARY FORM FOR (PROJECT NAME): The World Trade Center Asbestos Abatement Program

0038161

MYBP PROGRAM NAME: WTC

FACILITY: WTC

CONTACT PERSON: Dominick Montalbano

PHONE NUMBER: 116-66621

SUBMITTAL FOR (CHECK ONE)

PLANNING AUTHORIZATION: ☐
PROJECT AUTHORIZATION: ☒
REAUTHORIZATION: ☐
UPDATE: ☐
OTHER: ☐

REFERENCE NUMBERS

RESOURCE PLANNING FILE NO.:

PROPERTY CODE NUMBER:

DATE OF THIS SUBMITTAL: 6 / 22 / 88

PREVIOUS UPDATES: / / / /

BUDGET/CAPITAL PLAN INFORMATION

	YES	NO
IN ANNUAL BUDGET?	☒	☐
IN CAPITAL PLAN? (Major Work)	☒	☐

(IN MILLIONS)

SPENT THRU	19 87 : $	5.0
CURRENT YEAR	19 88 : $	10.0
+1	19 89 : $	20.0
+2	19 90 : $	20.0
+3	19 91 : $	20.0
+4	19 92 : $	20.0
+_	19 93 : $	29.72

TOTAL PROJECT COST: $ 124.72

ESTIMATES BASED ON STAGE 1

PROJECT COST INFORMATION

(IN MILLIONS)

SITE	$
PLANNING AND ENGIN.	
PLANNING:	$ 0.90
ENG./DESIGN:	$ 7.07
CONSTR. SUPERVISION:	$ 5.30
GENERAL AND ADMIN.:	$ 3.32
CONSTRUCTION	
CONTRACTS:	$ 88.39
WORK FORCE:	$
PROJECT CONTINGENCIES:	$ 10.50
FINANCIAL EXPENSE:	$ 9.24
TOTAL PROJECT COST:	$ 124.72
LESS CONTRIBUTIONS:	$
NET PROJECT COST:	$ 124.72

REVENUE AND COST OVERVIEW

(IN MILLIONS)

YEAR	REVENUES	O&M COSTS	NET REVENUES
19___	$	$	$
19___	$	$	$
19___	$	$	$
19___	$	$	$
19___	$	$	$

PRESENT VALUE: 19___ $@_____% $

PROJECT LIFE: _____

NET PROJECT COST: $_____

NET PRESENT VALUE: @_____ % $_____

SCOPE/PURPOSE OF PROJECT: Remove asbestos materials from 32 office floors, isolated locations on other office floors, maintenance, public and construction areas to permit tenant reconstruction of these spaces, installation of fire sprinkler systems and performance of maintenance activities with minimal disturbance of asbestos materials.

PRIORITY ASSESSMENT AND CRITICAL ISSUES: Recent federal and local laws enacted with regard to asbestos materials place severe limitations on its disturbance. Existing tenants with asbestos fireproofing materials above the architectural ceiling cannot make alterations without incurring premium costs and liabilities. New tenants want the asbestos cleared out before they move in. These floors tend to become and remain vacant. Due to the presence of asbestos, the sprinkler fire protection system has been delayed in installation.

HIGHLIGHTS OF REVIEWS

DEPARTMENT	REVIEWER	MO./YR.	PROCEED? YES	NO
ENGINEERING:		/	☐	☐
FIN. ANAL.:		/	☐	☐
GOV. COMM.:		/	☐	☐
LAW.:		/	☐	☐
MBD:		/	☐	☐
P&D:		/	☐	☐
OTHER:		/	☐	☐

SUMMARY OF IMPACTS (CHECK ONE)

	NO IMPACT	IMPACT
COMMUNITY:	☒	☐
ENVIRONMENTAL:	☐	☒
FINANCIAL:	☐	☒
LAND USE:	☒	☐
LEGAL ISSUES:	☐	☒
OPER/ S:	☐	☒
REGIO. ECONOMIC:	☒	☐

MILESTONE DATES:

SITE ACQUISITION:	/
PLAN. AUTHOR.:	/
PROJ. AUTHOR.:	8 / 88
1st CONTRACT:	6 / 86
LAST CONTRACT:	3 / 93
BEGIN CONSTR.:	7 / 86
END CONSTR.:	/ 93
USE/OCCUPCY.:	/

SECTION 1: GENERAL INFORMATION

PROJECT NAME:	WORLD TRADE CENTER ASBESTOS ABATEMENT PROGRAM
DEPARTMENT:	WORLD TRADE & ECONOMIC DEVELOPMENT
FACILITY NAME & ADDRESS:	THE WORLD TRADE CENTER
LOCATION OF PROJECT WITHIN THE FACILITY:	OFFICE FLOORS IN ONE, TWO, & FIVE WORLD TRADE CENTER, PUBLIC SPACES IN THE SUBGRADE, VARIOUS MAINTENANCE AREAS IN THE FACILITY, AND OTHER VARIOUS LOCATIONS IN THE FACILITY ON AN AS-NEEDED BASIS

BACKGROUND OF NEED FOR PROJECT: During the early stages of construction of One World Trade Center, the use of asbestos fireproofing materials was halted and asbestos free materials were to be substituted in the construction of the balance of the World Trade Center Project. An encapsulating coating was applied to the asbestos fireproofing material to prevent the release of airborne fibers. In specific areas such as elevator shafts, because of the velocity of the elevator cars, it was necessary to continue with the use of asbestos containing materials since there was no available substitute at that time. In this situation, the asbestos containing material was an overspray, Cafco Mark II, to achieve a hard coat on the fluffy asbestos free fireproofing material.

Similarly, because of maintenance work anticipated to be performed on the mechanical equipment floors and within utility shafts in both towers, all spray-on structural steel fireproofing materials applied in these areas were required to receive the Cafco Mark II overspray to achieve a hard coat on the fluffy asbestos free fireproofing material. The mechanical equipment floors were sound insulated from office floors situated above and below these floors by

spray-on fluffy asbestos free insulation with a Cafco Mark II overspray to achieve a hard coat.

In addition, some of the piping and ventilation ducts in the World Trade Center are insulated with asbestos containing materials.

Since the completion of the original office space finishes in the lower one-third of One World Trade Center, tenants in this zone were discouraged from performing alterations to their spaces that would disturb the asbestos fire-proofing materials applied to the structural steel above the suspended architectural ceiling in these spaces. Maintenance activities in these areas were performed on an emergency basis only because of worker concern with exposure to airborne asbestos fibers above the suspended architectural ceiling.

In 1985, Contractor's proposals had been received for installation of fire protection sprinklers in the first zone of One World Trade Center utilizing procedures to monitor and assure minimal disturbance and exposure to workers and building occupants to airborne asbestos fibers. However, due to concerns about the overall problem of exposure to asbestos and the extraordinary costs associated with safeguarding procedures under this contract, the contract was not awarded. A decision was made to remove the asbestos fireproofing materials from the structural steel in office space areas to allow the refinishing of the office areas by new and existing tenants, allow for the installation of sprinklers, and provide an environment in which normal maintenance activities could be performed.

In June of 1985, the United States Environmental Protection Agency (USEPA) issued a document "Guidance for Controlling Asbestos Containing Materials in Buildings", commonly known as the Purple Book. Guided by this document over 16,000 bulk samples have been taken and analyzed in order to identify the location of asbestos containing materials in the World Trade Center. The results of these tests confirmed expectations of asbestos containing fireproofing materials in: The first zone of One World Trade Center; and, mechanical equipment floors, sound insulation of floors below mechanical equipment floors, utility shafts and elevator shafts in both One and Two World Trade Center. Isolated spots of asbestos containing fireproofing materials were

found at unexpected locations on office floors in One and Two World Trade Center. Surprisingly, the 108/109th mechanical equipment floors, the Observation Deck in Two World Trade Center and certain elevator shafts, or portions thereof, were asbestos free. Apparently, at some point during construction, a substitute for the asbestos containing Cafco Mark II hard coat was found and utilized. Four World Trade Center was found to be asbestos free and Five World Trade Center was found to have only two isolated spots of asbestos fireproofing material. Bulk sample testing is continuing to define the limits of identified asbestos containing materials throughout the project and its condition.

In 1986, the Occupational Safety and Health Administration (OSHA, an agency of the United States Government) issued regulations limiting the permissible exposure of construction and maintenance workers to airborne asbestos fibers as well as procedures for measuring exposure and prescribing protection to be taken. These regulations reduced previously acceptable exposure levels by a factor of 10.

In 1987, the City of New York enacted Local Law No. 76 which requires all building owners to determine if asbestos containing materials will be disturbed during the performance of proposed construction work, and if so, to utilize asbestos abatement procedures included in the law.

Since the completion of the original office space finishes in the first zone of One World Trade Center, and because of concern of exposure of workers and building occupants to airborne asbestos fibers, the Inspection and Safety Division of the Public Safety Department periodically performed air monitoring tests in these areas, particularly during periods when ceilings were opened for construction or maintenance work. These tests collected all fibers in the air, some of which were non-asbestos. The results of the tests indicated the concentration of airborne fibers did not exceed or approach the permissible level included in the 1986 OSHA regulations.

GOALS AND OBJECTIVES OF PROJECT: This 7 year project is the first phase of asbestos abatement at the World Trade Center. This project addresses the removal of asbestos containing fireproofing materials from structural steel on

office floors; clean-up of various maintenance areas in which asbestos containing materials have been disturbed in the past and debris lays scattered around the work area, or the asbestos containing material is in poor condition, friable, and easily made airborne; removal of asbestos material in public areas that is exposed and easily susceptible to damage; and, removal of asbestos materials on an as-needed basis to facilitate maintenance, emergency repairs and base building construction.

Based on the continued sampling to be performed to define the location, extent and condition of the asbestos containing material at the World Trade Center, and maintenance and construction practices that are developed for safe-guarding against asbestos contamination, future phases of asbestos abatement at the World Trade Center will address how to deal with identified asbestos in mechanical equipment rooms, elevator shafts and utility shafts.

JUSTIFICATION OF PROJECT: This project is necessary to provide for new tenants to re-build office space finishes to suit their needs, existing tenants to expand and modernize their spaces, complete the installation of the sprinkler fire protection system, provide a work efficient environment for the performance of maintenance activities and clear miscellaneous areas of asbestos materials so that work under base building construction contracts can proceed.

In addition, large parcels of office space (over 5,000 square feet) are virtually unrentable unless they can be altered to suit prospective tenants. Without asbestos removals these alterations cannot proceed. The current estimate projects that by year-end 1989, over 500,000 square feet of vacant asbestos space will have accumulated. This represents a potential revenue loss of approximately $15,000,000 per year.

SECTION 2: ALTERNATIVE ANALYSIS

ALTERNATIVE 1A: DO NOTHING IN OFFICE SPACE AREAS

This alternative will avoid construction costs for tenant relocation, asbestos abatement and space reconstruction.

Tenants on floors with asbestos containing fireproofing materials are prevented from upgrading and modernizing their areas unless costly expenditures are made for asbestos abatement. Consequently, tenants wanting to upgrade and modernize their spaces will move out of their current leaseholds.

Unsuccessful attempts have been made to lease space "as is" at a lower rate. Reat Estate brokers, such as Cushman & Wakefield, have documented that World Trade Center space containing asbestos is virtually unrentable unless it is abated. Also, building owners in the WTC vicinity, in order to maintain their rentability, are in the process of removing asbestos as space is vacated by tenants.

If we were to price the space at "below market," the World Trade Center will no longer attract the tenants that will maintain its level of first-class office building status.

New tenants will not undertake costly asbestos abatement work to re-work the office space finishes to suit their needs.

Consequently, the trend of this alternative would be for accumulation of vacant office space for floors with asbestos fireproofing materials above the architecturally suspended ceiling.

The installation of fire protection sprinklers and the performance of maintenance work will be inefficient and costly due to protective measures that must be taken.

ALTERNATIVE 1B: DO NOTHING IN MAINTENANCE AREAS AND AREAS WITH ACM WHICH IS HIGHLY SUSCEPTIBLE TO DAMAGE: This alternative will avoid construction costs for removal of asbestos containing materials and their replacement with non-asbestos materials.

Maintenance staff will be required to take special precautions in areas of asbestos hazards. In emergency conditions, when an asbestos release has taken place, occupants may have to be evacuated. Maintenance activities in areas with asbestos containing materials will not be as efficient as maintenance in areas without asbestos. Workers and building inhabitants exposed to airborne asbestos may institute law suits if they become sick with asbestos related diseases.

ALTERNATIVE 2 - ENCLOSE OR ENCAPSULATE ASBESTOS CONTAINING MATERIAL TO PREVENT AIRBORNE RELEASE: This is not a viable alternative for the areas to be abated under this project since the enclosure or encapsulation would be breached during construction and maintenance activities.

ALTERNATIVE 3 - REMOVE ASBESTOS CONTAINING MATERIALS : FROM OFFICE FLOORS; FROM PUBLIC AREAS WHERE THE MATERIAL IS HIGHLY SUSCEPTIBLE TO DAMAGE; FROM MAINTENANCE AREAS WHERE THE MATERIAL IS DAMAGED AND VERY FRIABLE; FROM MAINTENANCE AREAS WHERE THE ASBESTOS CONTAINING MATERIAL HAS PREVIOUSLY BEEN DISTURBED AND LAYS ON SURFACES WHICH CAN EASILY BE DISTURBED BY MAINTENANCE WORKERS; AND, ON AN AS-NEEDED BASIS TO FACILITATE MAINTENANCE, EMERGENCY REPAIRS AND BASE BUILDING CONSTRUCTION: This alternative allows tenants to maximize the utilization of office space at the World Trade Center and provides highest rentals available in the market place, minimizes vacancies and minimizes exposure of tenants and workers to asbestos hazards, and would allow us to complete the sprinklerization of the complex.

SECTION 3: INFORMATION RELATED TO THE SELECTED ALTERNATIVE

REASON FOR SELECTION: - Alternative 3, removal of asbestos containing materials from certain areas, is selected as the best alternative for the following reasons:

- Tenants on office floors with asbestos containing fireproofing materials on structural steel above the architecturally suspended ceiling are prevented from expanding and modernizing their spaces due to costly asbestos abatement work that would have to be undertaken to proceed with the construction work. Consequently, the trend is for tenants to vacate these spaces.

  Removal of asbestos containing structural steel fireproofing materials from office space areas will minimize costs for asbestos abatement in these areas for both the short and long term, reverse the trend for these areas to become and remain vacant, and eliminate lost rentals for these areas.

- As a result of media reporting on the hazards of asbestos during the past several years and the more recent regulations issued by OSHA and Local Law No. 76 enacted by New York City, real estate brokers and tenants looking for new space are inquiring into the existence of asbestos containing materials in the prospective leasehold. The position taken by the brokers and tenants is that an agreement on a lease will require the landlord to remove the asbestos from the leasehold.

  By proceeding with a planned asbestos removal program, the asbestos removals can be performed in a controlled manner by trained personnel which will minimize asbestos exposure to building occupants and remove the asbestos in the most cost effective way.

  The asbestos abated floors can then be marketed for highest rental

rates available in the marketplace.

- Removal of asbestos material in maintenance areas where: the material has been previously disturbed and lays on surfaces which can be disturbed by maintenance workers; or where the material is damaged and very friable; or where maintenance or replacement activities are required which entails the disturbance of significant quantities of asbestos pipe or ventilation duct insulation, will improve the efficiency of maintenance activities and minimize the exposure of workers and building occupants to asbestos.

COST/FINANCIAL INFORMATION: (CONSTRUCTION COSTS ONLY)

- Remove Asbestos Materials on Office Floors:

  - Completed Work or Under Contract

WTC-115.221 - 1 WTC Full Floors 10 & 11:		$2,062,390
WTC-115.225 - 1 WTC Full Floors 16 & 40,		
2 WTC Full Floor 74, and		
2 WTC Partial Removal		
on Floor 41/42 (MER):		4,602,400
WTC-115.223 - 2 WTC, Floor 33, Isolated		
Spots (800 sq. ft.):		22,440
EXD-100.367 - 1 WTC Floor 32, Isolated		
Spots (2400 sq. ft.):		98,000
- 2 WTC, Floor 43		
(1100 sq. ft.):		39,000
	Subtotal	$6,824,230
	Say	$6,825,000

  - Future Office Floors

Note: 107th Floor of 1 WTC has asbestos fireproofing on the structural steel above the architecturally suspended ceiling but is not included in this summary since it is used as a restaurant.

Full Floors		
1 WTC-Floors 9, 12 to 15, 17 to 31, 33 to 37: (Total of 25 floors)		$25,000,000
1 WTC Floor 74:		1,200,000
2 WTC Floor 40:		1,000,000
	Subtotal	$27,200,000

Partial Floors (Isolated Spots)	
1 WTC- Floor 32 (800+900 sq. ft.):	250,000
" 39 (300 sq. ft.):	75,000
" 48 (1,000 + 2,000 sq. ft.):	250,000
" 82 (1,000 + 1,500 + 1,500 sq. ft.):	250,000
" 104 (8,000 sq. ft.):	250,000
2 WTC-Floor 13 (1,500 + 1,500 sq. ft.):	250,000
" 26 (2,500 sq. ft.):	125,000
" 71 (3,000 sq. ft.):	125,000
5 WTC-Floor 5 (2,500 sq. ft.):	125,000
" 9 (300 sq. ft.):	75,000
(Total: 28,300 square feet) Subtotal	$1,775,000

- Relocate Tenants to other Floors to Allow for Asbestos Removals - Tenants will be moved to other floors into re-constructed office space comparable to the space they currently occupy. This approach is less expensive than moving the tenant out of the premises temporarily and avoids disturbing the tenant twice.

  Requiring existing office finishes to be protected during removal of asbestos fireproofing materials increases its cost from $25 to approximately $75 per s.f. and this does not include costs to repair damages, replace rugs, replacing ceiling tiles and repainting which could cost an additional $5 to $10 per s.f. Moving the tenant twice increases the moving cost from $6 to $10 per s.f. The cost to reproduce the tenant's space on another floor is estimated to cost up to $40 per s.f. including design and construction costs.

Within the 32 office floors requiring full floor asbestos abatement (approximately 1,200,000 s.f.), approximately 750,000 s.f. includes lease commitments that could involve relocation of the tenant into reconstructed space. The estimated cost of reconstruction and relocation (contract costs only) is as follows:

o Reconstruction (750,000 s.f. x $35 per s.f.):	$26,250,000
o (Current practice allows up to $20.00 per square foot to refit tenant space)	
o Relocation (750,000 s.f. x $6 per s.f.):	$ 4,500,000
Subtotal	$30,750,000*

* Every effort will be made to minimize this cost by having tenants to be relocated take over space on non-asbestos floors in an as-is condition, encouraging tenants wanting to modernize and enlarge their premises to relocate to non-asbestos floors, and to anticipate which tenants will move out prior to, or upon, expiration of their lease.

This cost does not include relocating tenants from floors with isolated spots of asbestos fireproofing. These floors are planned to be cleaned only when the tenant vacates its space.

o <u>Remove Asbestos Fireproofing In Public And Other Select Areas Of The Subgrade</u>:	Subtotal	$ 1,000,000

o <u>Remove asbestos material in maintenance areas which was previously disturbed</u>

and lays on surfaces of pipes and ducts, or which was damaged and the material is in poor condition, and select material on pipes and ducts to facilitate maintenance:

10 Mechanical Equipment Rooms at an allowance of $300,000 per MER:	$ 3,000,000
Allowance for other maintenance areas:	$ 500,000
Subtotal	$ 3,500,000

- Allowance to remove asbestos on an as-needed basis to facilitate maintenance, emergency repairs and to clear areas as required to permit construction issued under base building contracts to proceed:

Subtotal	$ 2,000,000
Total	$73,050,000
Extra Work (10%)	7,305,000
Total	$80,355,000
Escalation: (10%)	8,035,000
Grand Total	$88,390,000

SCHEDULE OF PROJECTED CONTRACTS:

- Asbestos removal from office floors

  Contracts will be prepared for four to six full floors to be abated annually. All contractors will be pre-qualified for asbestos removal work at the World Trade Center. Depending on actual tenant move outs and negotiated tenant relocations, asbestos removal from the 32 office floors is planned for completion by 1993. These contracts will include provisions for asbestos removal on an as-needed basis from tenant areas

with isolated pockets of asbestos, asbestos removals from maintenance areas and removals from areas which are required for other construction to proceed.

- o Tenant relocations
  Tenants are encouraged to engage their own consultants and contractors to arrange for their relocation at Port Authority expense. This work is then performed under a Tenant Alteration Application.
  When tenants cannot manage their relocation, Port Authority staff with the aid of consultants will prepare the contract and engage the construction contractor.

- o Asbestos removals in maintenance areas, public areas and on an as-needed basis: One or more contracts will be prepared for removal of asbestos in these areas. These contracts will be performed either on a lump sum basis for work that can be accurately defined or on a net cost basis for work which cannot be quantified or must be performed on a call-in emergency basis.

SECTION 4: PROJECT MANAGEMENT PLAN

- Preparation of construction drawings and technical specifications:

  - Asbestos removal contracts - Drawings and specifications are expected to become standardized, and therefore, are expected to be prepared by the Engineering Department.

  - Reconstruction of tenant spaces - Except when prepared by the tenant's consultant, World Trade & Economic Development Department will develop a short list of consultants from which it will receive proposals and enter into agreements to prepare construction documents for reconstruction of tenant spaces. The Engineering Department will remain responsible for revieving and approving all such documents prepared by the Consultant.

  - Award of asbestos removal contracts - A prequalified list of asbestos removal contractors will be established. Asbestos removal bids will be solicited from these contractors, and additional work may be negotiated with these contractors based on their performance and the cost of the work.

  - Award of tenant space construction contracts - A prequalified list of office space construction contractors will be established. Bids for tenant space construction contracts will be solicited from these contractors, and additional work may be negotiated with these contractors based on their performance and the cost of the work.

For all asbestos removal and reconstruction work, we will publicly advertise once for a 24 month period to develop select lists of

contractors who meet specific prequalification standards. All contractors on the select lists would then be eligible to submit proposals for specific work. In the case of architectural and engineering design, a list of approximately 3-5 consultants will be developed and utilized on a rotating basis.

Every effort will be made to include MBE/WBE participation in all of the above 3 categories where qualification standards are met by Port Authority certified firms, either as prime contractors or as subs.

o Tenant Leases:

- o Tenant relocations - Tenant leases will be re-negotiated to include the design and construction of new space by either the tenant's consultants and contractors or the Port Authority for approximately $40 per s.f. for design and construction and up to $6 per s.f. for moving allowance. Alternatively, we will accept an early surrender of an existing lease in lieu of relocation.

- o New tenants taking space on asbestos abated floors - Since asbestos abated floors will be bare except for fireproofing reapplied to the structural system, work order allowances for approximately $40 per s.f. will be negotiated with the tenant for the tenant's consultants and contractors to design and construct the space to the tenant's needs. Alternatively, the Port Authority will design and construct the space in accordance with the tenant's need with all costs in excess of the allowance to be borne by the tenant.

o Construction Supervision:

- o Asbestos Removal Contracts - Contract administration will be by World Trade Center Construction Division. Inspection of Contractor's work will include utilization of Inspection and Safety Division Environmental Consultants for required daily air monitoring and conformance with specifications for asbestos removals. Inspection and Safety Division will be responsible for air testing for final

clearance.

- o Office Space Construction Contracts by Port Authority - Contract administration and inspection will be by World Trade Construction Division.

- o Office Space Construction Contracts by Tenants - World Trade Center Construction Division will audit Tenant's Contractor's work.

SECTION #5: REVIEW DEPARTMENT COMMENTS

SECTION #6:- OTHER DOCUMENTATION AND INFORMATION

Not included in this analysis is the loss of rental income due to the inability to rent asbestos floors as is, through and until the floor is abated and re-rented; and, from the time tenants are relocated until the floor is abated and re-rented.

Discussions are underway with the Administrator of the New York State Fund for Regional Development to pay for the costs of asbestos removal from those office floors from which they will be receiving the rent and the cost of asbestos abatement in mechanical equipment rooms which serve Fund floors.

Efforts are underway by the Asbestos Litigation Task Force to recover damages caused by asbestos products at Port Authority facilities including the World Trade Center from asbestos mining companies and manufacturers.

A contingency of 10% is included in the project authorization request to provide for additional asbestos areas that may be discovered through continued survey work and delays in availability of floors for asbestos abatement due to problems with relocating tenants.

- o Summary of Impacts:
  - o Environmental- Asbestos materials will be removed from tenant areas in a safe and efficient manner permitting tenant alterations, installation of fire sprinkler system and normal maintenance activities in these areas. Maintenance areas will be cleaned of disturbed and damaged asbestos materials. Asbestos materials subject to damage in public areas will be removed.

  - o Financial - Rental income of floors with asbestos fireproofing materials above the suspended architectural ceiling will be improved. Efforts to recover financial damages from asbestos manufacturers are underway by the Asbestos Litigation Task Force.

  - o Legal Issues - OSHA passed new regulations in 1986 limiting

permissable exposure to workers of airborne asbestos fibers. New York City passed Local Law No. 76 in 1987 making building owners responsible to identify asbestos that may be disturbed during construction or alterations of the structure and to require the work to be performed in a manner to limit exposure to workers and building occupants to airborne asbestos fibers.

- Operations - Maintenance areas will be cleared of previously disturbed and damaged asbestos materials creating a safer work environment.